

Remarks

Reconsideration of the pending office action is respectfully requested.

In the Drawings

Applicant has amended Figure 1 to indicate that it is an illustration of a Conventional Cyclone, as indicated in red in the attached drawing. Approval is requested.

In the Specification

Applicant has amended the Specification to comply with the Examiner's objection to the informalities. Approval is requested.

In the Claims

Claims 1, 10-12 and 17-22 have been amended to correct the objected informalities.

Applicant has also amended claims 1, 3, 5-11, 15-20 to address the Examiner's Sec. 112 rejection.

Approval is requested.

Claim Rejection under Sec. 102.

Claims 1-3, 13-16 are rejected under 35 USC Sec. 102(b) as being anticipated by Davenport et al. (2,553,175). Applicant respectfully disagrees with the Examiner's rejection.

The object of the invention is attained by way of implementing a cyclone apparatus as a unit comprising a plurality of parallel-connected multiple-inlet cyclones. The parallel cyclones of the multi-cyclones are multi-inlet cyclones, wherein the separation is accomplished by directing the gas flow in the separation chamber to essentially a tangentially stream along the wall of the separation chamber. Unexpectedly, it has been found that the separation efficiency of a cyclone

unit can be improved hereby without encountering a significant increase in the erosion rate of the equipment.

Davenport is quite different from the claimed invention. First, the Davenport is a vacuum operated device for collecting ash and dust. (Col. 1, lines 1, 24; claim 1, col. 7, line 9) The present invention operates at overpressure. Davenport has two slightly bent inlet openings on opposite sides of a cylinder. These bent openings cannot be “vanes.” The Davenport cyclone does not work efficiently, because the flow tends to travel radially from the inlet openings than tangentially. The flow between pipes 34 and 35 is more axial than tangential. When Davenport’s flow turns from the outer cylinder to the inner, the solids of the gas flow is separated. In order to steer the flow into a tangential path of motion, a channel guide vanes forming several channels are needed for the likes of Davenport. Therefore, it is respectfully submitted that the claims are not anticipated by Davenport. The Examiner’s rejections under Sec. 102(b) should be withdrawn.

Claim Rejections under Sec. 103(a)

Claims 4-9 are also rejected under 35 USC Sec. 103(a) as being unpatentable over Davenport. With respect to Davenport’s inapplicability to the present invention, Applicant respectfully directs the Examiner’s attention to the discussion above. In light of the distinctions between Davenport and the present invention, it is respectfully submitted that it would not have been obvious to modify Davenport to construct the present invention. Therefore, the Examiner’s rejections under Sec. 103(a) should be withdrawn. The claims are now in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Leonard R. Svensson (Reg. No. 30,330) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), the Applicant respectfully petitions for a three (3) month extension of time for filing a response in connection with the present application and the required fee of \$930.00 is attached hereto. In addition, Applicant has recalculated, and paid for, filing fees for all the claims as filed in the initial filing.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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D.C. 20231 on: March 10 2003
(Date of deposit) /

BIRCH, STEWART, KOLASCH & BIRCH, LLP

Susan M. Langworthy
(Signature)
March 10 2003
(Date of Signature) /